

## REMARKS

Claims 1-10 and 17-18 stand rejected under 35 USC §112, second paragraph, as being indefinite. By way of claim amendment above, the phrase 50° in claim 1 has been changed to state 50° C; the reference to a step of pelletizing in claim 2 has been deleted; and the word strands has been deleted and substituted with the word pellets in claim 17. Accordingly, Applicants respectfully request withdrawal of the rejection under 35 USC § 112, second paragraph.

Claims 1 and 18 stand rejected under 35 USC § 103 as being anticipated by Matthaiei et al (US 6858167). For the reasons which follow, Applicants respectfully submit that claims 1 and 18 are not anticipated by Matthaiei et al.

Claim 1 calls for introducing *solidified pellets* into a crystallizer at a temperature within a range of 50° C to below the T<sub>g</sub> of the polyethylene terephthalate. Matthaiei et al does not anticipate any of the claims, because Matthaiei et al does not disclose or suggest introducing into a crystallizer *solidified pellets* comprised of polyethylene terephthalate at a temperature in a range of 50° C to below the T<sub>g</sub> of the polyethylene terephthalate.

Instead, Matthaiei et al discloses and suggests introducing a *molten*, not solid, thermoplastic polyester into a crystallization fall tower. Neither pellets nor polyethylene terephthalate at a temperature in the range of 50° C to below the T<sub>g</sub> at the inlet of the crystallizer is disclosed or suggested. In fact, Matthaiei et al teaches away from introducing solidified pellets into the crystallization zone. Specifically, Matthaiei et al, at column 3, lines 42 et. seq. teach that "... the precursors are formed into drops in *molten* form by vibration excitation". [Emphasis added] Further, in the same column 3, lines 58 et. seq., Matthaiei et al teach the following:

The melting point of a PET monomer is from 230 to 240° C and is thus lower than that of the final PET polymer. The solidification point of the precursor formed into drops can be assumed to be approximately 200° C, so that, after emergence of the drop from the nozzle and a short fall zone until the solidification point of about 200° C is reached, initially no crystallization occurs.

Matthaiei et al make it clear that the drops that are introduced into the crystallizer are molten, not solidified pellets. In fact, it is critical to the successful operation of the crystallization fall tower as described by Matthaiei et al that the molten drops emerging from the nozzle introduced into the crystallization fall tower are initially molten, and then

for a short distance reach a solidification point in the fall tower of about 200° C, and then remain at above 100° C during the remainder of the fall within the fall tower so that crystallization can occur between the solidification point of 200° C and 100° C.

The reference given in the Office Action to column 3, lines 35-41 referring to an introduction temperature of within a range of 30° C to less than or equal to 120° C refers to the gas inlet temperature, not the temperature of the polyester polymer introduced into the crystallization fall tower. In the operation of the crystallization fall tower, a low temperature gas is introduced into the fall tower in a counter current flow to the drops falling vertically, and the heat of enthalpy from the drops is transferred to the counter current flow of gas, thereby enabling the gas to be reused in an energy saving manner.

By contrast, in the claimed invention, molten polyester polymer is first solidified to an *amorphous* pellet, said pellet being solid, followed by introducing through a conveying system the *amorphous solid pellets* to a crystallizer. These features are neither disclosed nor suggested by Matthaiei et al and would render the fall tower inoperable as described by Matthaiei et al.

Dependent claims 2-10 and 17 also stand rejected under 35 USC § 103 (a) as being obvious over Matthaiei et al. For the reasons advanced above with respect to the lack of anticipation by Matthaiei et al, the claims are also patentable under 35 USC § 103 (a) over Matthaiei et al. Nothing in Matthaiei et al suggests introducing into the fall zone a solid pellet, or an amorphous pellet. Nothing in Matthaiei et al suggests keeping the temperature of the polyethylene terephthalate polymer introduced into the crystallization zone in a range of 50 ° C to below the  $T_g$  of the polymer. For these reasons, claims 2-10 and 17, each being dependent upon claim 1, are also patentable under 35 USC § 103 (a) over Matthaiei et al. Moreover, since the principle of operation in the instant invention is completely different from that disclosed in Matthaiei et al., none of the features of dependent claims involving conveying, water, removal of the water or conveying with the gas are suggested or disclosed by Matthaiei et al.

For these reasons, Applicants respectfully request withdrawal of all rejections under 35 USC § 112, second paragraph, 102, and 103. The Examiner is invited to contact the undersigned at the number below with any questions related to the further prosecution of this application.

Respectfully submitted,



Dennis V. Carmen  
Registration No. 35,007

July 29, 2005  
Date

Eastman Chemical Company  
P.O. Box 511  
Kingsport, Tennessee 37662  
Phone: (423) 229-6189  
FAX: (423) 229-1239

CERTIFICATE OF MAILING UNDER 37 CFR 1.8(a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Mail Stop Amendment, P. O. Box 1450, Alexandria, VA 22313-1450.

Karen L. Taylor  
Karen L. Taylor

8/11/2005  
Date